

## REMARKS

These remarks are responsive to the Office Action dated April 2, 2004 (hereinafter referred to as the "Office Action"). A petition and fee for a one-month extension of time extending the period for response until August 2, 2004 accompanies this response.

Claims 1-19 were pending as of the last examination, of which Claims 1, 8 and 16-19 are independent claims and are amended herein. The Office Action rejected pending Claims 1, 5-8 and 12-19 under 35 U.S.C. §103(a) as being unpatentable over United States patent number 5,930,288 issued to Eberhardt (hereinafter referred to simply as "Eberhardt") in view of United States patent number 6,496,534 issued to Shimizu et al. (hereinafter referred to simply as "Shimizu"). The applicants respectfully request reconsideration in light of the amendments made herein and in light of these remarks.

The Manual of Patent Examining Procedure (MPEP) states as follows:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all of the claim limitations. (See MPEP §2143, underlining added for emphasis).

As recited in claim 1, the receiver "obtain[s] channel estimation values by calculating a weighted sum of average values of pilot symbols", and "compensate[es] for channel fluctuations of [a] data symbol sequence using the channel estimation values." Also, the receiver "controls the weighting [for obtaining the channel estimation values] in response to a rate of the channel fluctuations." Neither Eberhardt nor Shimizu disclose the recited feature of "weighting for obtaining the channel estimation values by calculating a weighted sum of average values of pilot symbols is controlled in response to a rate of the channel fluctuations by using at least the pilot symbols included in the pilot blocks".

The Office Action frankly and rightfully acknowledges that Eberhardt does not disclose that the weighting is controlled in response to a rate of the channel fluctuations." However, the Office Action also states that Shimizu does disclose this feature by referring to the passage from

column 1, line 50 to column 2, line 8 and the passage from column 6, line 48 to column 7, line 9 of Shimizu.

However, these passages describe that the resreader 30 multiplies the output of the hard-decision unit 29 by the estimated channel distortion  $Z'(k,m)$  and a weighting factor  $W(k,m)$  to produce a new estimated symbol value  $D(k,m)$ , and that intervals for adjusting the weighting factor  $W(k,m)$  are chosen according to the rate of fading (Figure 3).

Here, the value that is multiplied by the weighting factor  $W(k,m)$  is the value that has been obtained by multiplying the output of the hard-decision unit 29 by the estimated channel distortion  $Z'(k,m)$ . It is not an average value of pilot symbols. Further, the value that is obtained by multiplying it by the weighting factor  $W(k,m)$  is the new estimated symbol value  $D(k,m)$ . The new estimated symbol value  $D(k,m)$  is not a channel estimation value. Therefore, Shimizu also does not describe or suggest the recited feature of Claim 1 that the "weighting for obtaining channel estimation values by calculating a weighted sum of average value of pilot symbols is controlled in response to a rate of channel fluctuations".

Since Eberhardt and Shimizu, even if combined, do not describe all of the features of claim 1, claim 1 is not unpatentable over Eberhardt in view of Shimizu. Since the combination is insufficient to support the *prima facie* case for obviousness, it is not necessary at this time to present arguments as to why the combination of Eberhardt and Shimizu may be inappropriate.

The other independent claims 8 and 16-19 recited similar features as are attributed to claim 1 above. Accordingly, claims 8 and 16-19 are likewise not unpatentable over Eberhardt in view of Shimizu. The other pending claims depend, directly or indirectly, from one of independent claims 1 or 8 and thus are not unpatentable over Eberhardt in view of Shimizu for at least the reasons that their corresponding independent claim 1 or 8 is not unpatentable over Eberhardt in view of Shimizu. Accordingly, withdrawal of the 35 U.S.C. §103(a) rejection is respectfully requested.

These same arguments were presented in the last response to the previous Office Action, which likewise argued that Shimizu did not disclose this feature. Although the current Office Action indicates that those arguments were persuasive, the current Office Action seems to be once again asserting that Shimizu discloses this feature. The undersigned respectfully requests a response to this argument if the next Office Action is to continue to contend that Shimizu does disclose this feature.

In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, the Examiner is requested to contact the undersigned attorney.

Dated this 30<sup>th</sup> day of July, 2004.

Respectfully submitted,



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